



1970

# Attitude Formation as a Function of Knowledge Increments and Values

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## Recommended Citation

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Attitude Formation as a Function  
of Knowledge Increments  
and Values

by

Richard P. McGlynn

A Thesis Submitted to the Faculty of the Graduate School  
of Loyola University in Partial Fulfillment of  
the Requirements for the Degree of  
Doctor of Philosophy.

February, 1970

## Life

Richard P. McGlynn was born in Elyria, Ohio, November 13, 1943.

He graduated from St. Ignatius High School, Cleveland, Ohio, in June, 1961. He received the degree of Bachelor of Science in Natural Sciences from Loyola University, Chicago, in June, 1965.

The author began his graduate studies at Loyola University in September, 1965, and received the degree of Master of Arts in June, 1967. In September, 1969, he was appointed an Assistant Professor in the Department of Psychology at Texas Tech University, Lubbock, Texas.

### Acknowledgments

The author wishes to express his gratitude to Dr. Patrick R. Laughlin, Dr. Homer H. Johnson, and Dr. Robert L. Solso for their guidance, patience, and assistance throughout the execution of this study.

He is also grateful to David Marx for his enthusiasm and invaluable consultation, and to Ann McGlynn whose many technical abilities were exceeded only by her inspiration in times of doubt.

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### Abstract

360 subjects, assessed for liberal-conservative values, received 2 sets of 3 simulated newspaper stories, each set representing successive knowledge increments about a fictitious issue. References to liberal-conservative values were either made explicit (liberal and conservative roles being counter-balanced) or eliminated from the messages. Major hypotheses were that (a) increasing knowledge would result in attitude polarization; (b) polarization would be in the direction specified by liberal-conservative values; and (c) polarization would be greater when liberal-conservative value references were made explicit. The results showed (a) a slight overall tendency toward depolarization; (b) no effect as a function of liberal-conservative values; and (c) minimal support for the hypothesized effect of value-explicitness. It was concluded that involvement is a necessary condition for polarization.

Attitude Formation as a Function  
of Knowledge Increments  
and Values.

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Although almost all forms of persuasion somehow involve transmission of new information to the subject, information has remained a neglected variable in attitude change. For example, it is McGuire's (1969) view that attitude change is the end product of a conditional series of events (attention, comprehension, yielding, retention, and overt action) and that research has been much too concerned with yielding to the neglect of the other variables in the chain. Actually, yielding is not even necessary. If information is not packaged in a persuasive communicator, no yielding need take place. Still the result may be attitude change.

Consider a subject faced with factual information. Given the processes of attention, comprehension, and retention, attitude change may occur when the new information is integrated with previous knowledge. Consistency theorists, for example, have been able to demonstrate attitude change resulting from the addition of inconsistent or dissonant information without overt persuasion (Festinger, Riecken, and Schachter, 1956; Newcomb, 1961; Tannenbaum, 1966;

Rokeach and Rothman, 1965; McGuire, 1960).

McGuire (1969) attempts to outline the distinctions between knowledge and attitude, and between persuasion and instruction. With regard to the latter, an operational distinction is made in terms of the "locus of individual-difference variance in the communication situation." Variation due to attention and comprehension is called instruction, while variation due to yielding is called persuasion.

Both persuasion and instruction, however, imply an intent to change on the part of the communicator. The more typical situation in which attitudes are changed is one in which there is no such intent. It is suggested that attitudes are very often changed in the same way they are formed: by the addition of new information.

Greenberg (1964) demonstrated that change occurs as the result of new information. Subjects pre-tested on their attitudes toward fallout shelters and the effects of nuclear war were given information on these topics. Post-test results showed change in a direction more favorable toward shelters, and that this change was directly related to information gain.

Although, as McGuire (1969) notes, people "seem to know what they like (and especially dislike) even regarding objects about which they know little, such as Turks, or which have little relevance to their daily concerns, like life in outer space--or that do not even exist, like Walonians and Pireneans (Hartley, 1946),"

a distinction will be made between attitude change (topics on which subjects have initial positions) and attitude formation (topics on which subjects have no initial position). Apart from this, attitude formation is largely a process of attitude change and/or stabilization. It is the nature of this process which is the concern of this paper.

An area of investigation in which information has not been a neglected variable is impression formation. In the typical impression formation study, the subject is presented with a series of discrete stimuli descriptive of a person or group. Since the stimuli are usually given quantitative values independently, the manner in which the subject combines these discrete stimuli to form a single impression can be measured.

The reference experiment in this area was conducted by Asch (1946). He read a list of seven descriptive adjectives to two groups of subjects. For one group the list included the adjective "warm," while for the other "cold" was substituted. The impression (measured by an adjective check list) formed by the subjects varied as a function of the warm-cold variable. Asch interpreted these results in terms of Gestalt theory, i.e., that the warm-cold variation affected the meaning of the other adjectives in the list.

Such an interpretation is no longer the most popular. Investigators now attempt to predict the total impression from the quantitative information associated with each stimulus item, and the relation between

the overall judgment and the judgment of each component is seen as basic not only to social perception, but to the psychology of judgment in general (Rosenberg, 1968).

Anderson (1962), using sets of three adjectives and a 20-point "likableness" scale to assess the overall impression, found that an accurate prediction of "likableness" could be made from a combination of the affective values of the stimulus items. Levy and Richter (1963) used sets of facial photographs as stimulus items and groups of individuals as the objects of judgment and obtained similar results.

The current controversy in impression formation revolves around the way in which the elements are combined. Anderson (1965) provided support for an averaging model. Independently assessing the favorableness of adjectives as either H (high), M+ (moderate positive), M- (moderate negative) and L (low) he found that an HHM+M+ combination was judged less favorable than an HH combination. Likewise, LL was judged less favorable than LLM-M-. The findings that HHHH turned out to be more favorable than HH and LL more favorable than LLLL are not at variance with the model if one assumes an initial impression. Hence, Anderson offers a weighted average model.

Employing sequential rather than simultaneous presentation of the stimuli, Fishbein and Hunter (1964) obtained results differing from Anderson's and supporting a summation model (Fishbein, 1963). A third approach, the configurational, has been proposed by Rokeach and Rothman (1965). According to this belief of congruence theory,



observed combinations are predicted to be more polarized than any component. A similar prediction has been developed by Manis, Gleason, and Dawes (1966) as an alternative to both the summation and averaging models. Their approximation predicts: (a) the evaluation of the compound groups will always be more extreme than the average of its elements; (b) the polarization of the compound will increase with the number of elements,  $n$ ; (c) as the number of elements increases, the amount of additional polarization accruing by the addition of new members will decrease with each new member added.

Despite the volume of research, models of impression formation are still considered "first approximations to what must be a complex matter" since with single cognitive elements, "in different interactions, different sets of dimensions become salient--elements recruit from each other aspects of meaning which may be latent or may pass as irrelevant when the elements are considered in isolation or in other interactions" (Zajonc, 1968, p. 325).

As long as research on the role of information in attitude formation and change remains limited to impressions formed on the basis of discrete descriptive elements, the essence of the problems involved might never be grasped. The present study proposes to employ responses which are more nearly real social attitudes, and stimuli which more truly represent information. The situation in which a subject receives and processes the adjective "honest" when applied to an unknown person may not produce the essential stimulus elements of the situations in which information is ordinarily received and processed.

Furthermore, the stimulus items typically employed in impression formation studies are considered to have the same value on the favorableness continuum for all subjects. The more typical situation is one in which the individual processes information in terms of his own values.

Information and values must be considered together to obtain accurate pictures of attitudes. Smith (1947) states that the intensity of an attitude is a function of the extent to which a personal value is engaged as well as the importance of this value in the hierarchy of the individual's central values. Yet in his study of attitudes toward Russia he reports that informational level (estimated from answers to a series of fact questions on Russia) was practically unrelated to the direction of opinions about Russia. The relationship, if any, of informational level to intensity of attitudes as a function of values is not reported.

Theoretically, values and attitudes have been distinguished in one of two ways (McGuire, 1969). Either values have been considered to be broader attitudes such that there exists a continuum from opinion to attitude to interest to value (Allport, 1937), or attitudes are considered to be defined in terms of all the values, positive or negative, to which the attitude is instrumental. This latter approach, McGuire notes, is the means-end analysis shared by both the summation and averaging theorists. The means-end approach points up the necessity for considering information and values concurrently.

Another way in which values may be related to information is by modifying the individual's receptivity to information. Freedman and Sears (1965) conclude from their review that there is no general psychological preference for supportive information. McGuire (1969) concludes that the hypothesis that individuals seek confirming information has received only fair support, while the hypothesis that individuals avoid disconfirming information is highly questionable. However, there is general agreement that holding a value sensitizes an individual to be receptive to information that is relevant to it. (Smith, 1947; Freedman and Sears, 1965; McGuire, 1969). Furthermore, various theorists (Rosenberg, 1956; Festinger, 1957; and Krech, Crutchfield and Ballachey, 1962) have postulated that when such information is not available the individual may invent beliefs that rationalize acquired affect.

Various learning theory approaches also lend themselves to the means-end analysis. According to Hovland, Janis, and Kelley (1953) the process of learning new opinions is one of receiving reward for acceptance. The central problem of how a persuasive communication can provide reward for acceptance (Insko, 1967) may be resolved by attributing reward properties to value-congruence. Staats and Staats (1959) found that the strength of the effect of conditioning attitudinal responses is a function of the number of conditioning trials. Extending this principle to the situation under consideration, it might be hypothesized that the strength of the attitudinal response will be a function of

the number of the number of presentations of value-relevant information. Similarly, the judgmental approach (Sherif and Hovland, 1961) may be interpreted as information handling as a function of previous values. Information is subject to either assimilation or contrast effects depending upon whether it falls in the latitude of acceptance or the latitude of rejection which are determined by the individual's values.

Smith (1947) spelled out two conditions that are necessary in order for an attitude to be affected by a value: (a) the scope of the value must be broad enough to apply to the topic; and (b) the information available to the person must contain at least some basis for engaging the value. If these conditions are satisfied, and if it is also true that the finding in impression formation that extreme stimuli are given greater weight (Podell and Podell, 1963) can be extended to social attitudes, then it is hypothesized that increasing information will result in a more extreme attitude (polarization) in the direction by the individual's value.

There is indirect evidence on this point. Brim (1955) demonstrated that judgments tend to be thrown toward the middle when the events to be judged are ones about which the individual knows and cares little (the "equi-probable through ignorance principle"). He considered attitudes to be feelings based on probability expectations about value instrumentality. Hence, when an individual has no information, his expectation is that the event may be equiprobably good or bad. It was found that the more extreme the probability rating, the more certain

variable producing polarization appears to be the handling of new information.

Since Wallach and Kogan (1965) have shown that the mere transmission of information is not sufficient to produce the risky shift, Moscovici and Zavalloni (1969) suggested (in line with a means-end analysis) that involvement with the situation was the crucial variable. He argued that "whatever the task and the social or individual situation, an individual's participation in it will result in a commitment which in turn produces a shift of judgment and opinions toward extremity. The direction of the shift is a function of the values and dominant attitudes of the group or in society; the values and attitudes have a selective effect." (p. 128) In experiments involving opinion material and judgment ratings with group discussion Moscovici and Zavalloni supported this interpretation. In addition, previous findings regarding extreme response styles (O'Donovan, 1965; Hamilton, 1968) were confirmed showing that the polarization effect is linked to the meaningfulness of the task.

The present study was designed to test a number of theoretical propositions generated in light of the above considerations. It is proposed that:

(1) There exists a theoretical zero point in attitude intensity which is not subject to measurement since any measure must introduce some knowledge about an issue (at the very least, knowledge of the existence of the issue). The necessity of this proposition follows from the major propositions (numbers 2 and 3), the polarization hypotheses.

(2) The more knowledge an individual has about an issue, the greater the tendency for that individual's attitude to deviate from the theoretical zero point, and the greater the likelihood that his attitude will tend to the extremes of a favorableness continuum.

(3) With successive increments of knowledge, attitudes in a group heterogeneous with respect to relevant values will become polarized.

(4) Polarization with increasing knowledge is controlled by the values to which the new knowledge is referred such that polarization is in the direction specified by the values, and that polarization is greater with stronger values. This proposition arises from consideration of the means-end analysis.

(5) If increasing knowledge about an issue contains explicit value referents, polarization will be facilitated.

(6) Polarization may be facilitated by situational demands which either (a) force the individual to seek more knowledge on the issue; or (b) force the individual to categorize available information in terms of values which are only implicit or ambiguous in the information available. The facilitating effect produced by #6-b, when the only situational demand is the presence of an attitude scale for the individual to mark, is expected to be less than the facilitating effect of #5.

The goal of this research was to test these propositions (with the exception of #1 which is untestable by definition) in a situation typical of those in which people receive and process new knowledge.

### Method

Subjects. Subjects were 360 undergraduate students enrolled in psychology courses at Loyola University. They were randomly assigned to each of the eight experimental conditions.

Materials. The stimulus materials consisted of a booklet entitled "Research Form" which contained the following instructions on the cover page: "We are interested in the way people react to news events. This booklet contains three newspaper clippings, each followed by a short questionnaire about one event, and three more clippings and questionnaires about another. Please read all the instructions and articles carefully. Go thru the booklet in order, and do not skip any pages."

The booklet contained three simulated newspaper clippings about each of the two issues used in the experiment. Following each clipping were six scales for the subject to check. At the end of each booklet was attached the Social Attitude Scale developed by Kerlinger (see Shaw and Wright, 1967) as a measure of liberal-conservative attitudes. (The complete scale is presented in Appendix I).

Each set of clippings was designed to simulate successive news stories as they would appear in a daily newspaper. These messages were written by the experimenter but edited and proofread by a professional journalist. They were set in regular newspaper type and centered on an 8½ x 11 inch sheet which was duplicated on a xerox machine.

Issue I concerned a revolutionary uprising in the fictitious Central American country of Bazania. The first message described an

initial clash between revolutionary and government forces and radio statements by both sides. The second message described more fighting and charges and counter-charges, while the third was mostly concerned with the assassination of the government economic minister. (See Appendix II for complete texts).

Issue II concerned picketing of the school administration offices in Elyria, Ohio, by a group known as Parents Concerned About Schools. Again the event was fictitious. The first message described the first day of picketing about a school boundary realignment proposal, including statements from the protest leader and the superintendent of schools. The second message introduced the issue of a petition signed by parents protesting the proposal, while the third mentioned an unproductive meeting between the two sides of the dispute. (See Appendix III for complete texts).

Both sets of messages were written to represent ongoing conflicts which were not resolved by the third day. They were balanced such that neither side of the controversy appeared to have the upper hand at any time.

For both issues there were three versions of the sets of messages. One set, the neutral (N) was written ambiguously from the point of view of liberal-conservative values. These were the value-implicit messages. In the other two versions of the messages, these values were made explicit. In the "right" version (R) the power structure (Bazanian government or school administration ) was identified as liberal and as espousing liberal causes, while in the "left" version (L) the power structure



was identified as being conservative. Conversely, the revolutionaries or protesters were liberal in the "left" version (L) and conservative in the "right" version (R).

The Social Attitude Scale is a 26-item, 6-point scale on which the subject rates his agreement with each statement by marking his response (plus 3 to minus 3) to the left of each item. The scale was developed by methods of factor analysis and was used in this study as a measure of liberal-conservative value orientation.

Design and procedure. Each subject received the N (value-implicit) version of one set of articles and a value-explicit (L or R) version of the other. The order of administration was counterbalanced, yielding eight experimental conditions. The 360 subjects were randomly assigned to each of these conditions, 45 per cell.

Subjects were run during regularly scheduled class sessions. The experimenters merely asked for cooperation in a research project and passed out the booklets which were self-explanatory.

The dependent variables were measured by a series of scales following each separate clipping, and by the Social Attitude Scale which was at the end of the booklet. The instructions with each set of scales stated: "Now that you have read the newspaper clipping, please answer the following questions. We want your first reaction. Do not leave any of the scales blank. Please make your choice marks in the middle of the appropriate space." The first four scales were 7-point scales ranging from extremely favorable to extremely unfavorable, and stating: "check

the box which best describes your feelings toward:" (1) the Basanian government (school administration), (2) Basanian president (school superintendent), (3) the revolutionaries (protestors), (4) the revolutionary leader (protest leader). Another scale (5) was a 7-point forced-choice scale dealing with favorableness toward one or the other sides of the dispute. Also included (6) was a 5-point scale concerning the eventual outcome of events: "check the box which best describes how you think the events that you read about will eventually turn out." Choices ranged from complete victory for the government (school administration) to complete victory for the revolutionaries (protestors). The complete scales are presented in Appendix IV.

### Results

Individual Scales. Ratings on the four unidirectional scales dealing with favorableness toward those involved in the events described were correlated separately for each issue. Tables 1 and 2 present these correlations for issues I and II respectively. Scales 1 and 2 refer to the power structure, 3 and 4 to the revolutionaries or protestors.

Table 1

Issue I: Correlations between Favorableness Scales

Scale	2	3	4
1	.83	-.59	-.56
2		-.60	-.57
3			.86

Table 2

Issue II. Correlations between Favorableness Scales

Scale	2	3	4
1	.76	-.72	-.69
2		-.64	-.65
3			.82

The moderate to high absolute values of these correlations suggested that all four scales be combined for further analysis. In order to be certain that results obtained with these combined scores were not confounded by differences in scale correlations in different treatments, the correlations were computed by experimental treatment. These correlations are given in Tables 3 and 4 by value orientation, and in Tables 5 and 6 by knowledge increments.

Table 3

Issue I: Correlations between Favorableness Scales  
For Three Value-orientations.

Scales	N			L			R		
	2	3	4	2	3	4	2	3	4
1	.78	-.48	-.47	.85	-.63	-.57	.84	-.66	-.62
2		-.51	-.49		-.58	-.53		-.67	-.64
3			.85			.86			.86

Note -- The following abbreviations are used: N-value implicit or "neutral" message; L-value-explicit "left" version; R-value-explicit "right" version.

Table 4

Issue II: Correlations between Favorableness Scales  
For Three Value-orientations.

Scales	N			L			R		
	2	3	4	2	3	4	2	3	4
1	.66	-.64	-.60	.87	-.73	-.74	.75	-.70	-.67
2		-.54	-.54		-.73	-.77		-.58	-.58
3			.76			.76			.88

Tables 3 and 4 indicate that for both issues the value-implicit messages produced lower correlations than the value-explicit messages. On issue I, R messages produced higher correlations, while on issue II the pattern was reversed. In general, issue I correlations are higher.

Table 5

Issue I: Correlations between Favorableness Scales for  
Three Knowledge Increments.

Scales	First			Second			Third		
	2	3	4	2	3	4	2	3	4
1	.77	-.56	-.51	.82	-.58	-.54	.89	-.65	-.64
2		-.61	-.54		-.55	-.54		-.63	-.62
3			.82			.86			.90

Table 6

Issue II: Correlations between Favorableness Scales  
for Three Knowledge Increments.

Scales	First			Second			Third		
	2	3	4	2	3	4	2	3	4
1	.69	-.63	-.62	.75	-.72	-.68	.85	-.80	-.77
2		-.54	-.57		-.63	-.62		-.74	-.76
3			.76			.83			.88

Tables 5 and 6 reveal a general pattern in which correlations increase with each knowledge increment. There is little difference between the two issues.

Taken together, these two correlations seem consistently high enough across all experimental conditions to warrant combining the scores for analysis. The observed differences between experimental conditions are small enough to rule out the possibility that results with the combined scores will be confounded.

Table 7 presents the correlations between scale 5 (a seven-point forced choice scale) and the four unidirectional scales for both issues.

Table 7

Issues I and II: Correlations between Forced Choice  
and Unidirectional Scales.

	Issue I	Issue II
Scale	5	5
1	.65	.66
2	.59	.55
3	-.56	-.64
4	-.55	-.63

Since these correlations were somewhat lower than those previously presented, and since the reason for this was not immediately apparent, this scale was dropped from further analysis.

Responses to scale 6, which asked subjects to indicate in whose favor they felt the described events would eventually turn out, were correlated with the other five scales. These correlations are given in Tables 8 and 9 for each knowledge increment of each issue.

Table 8

Issue I: Correlations between Eventual Outcome Ratings  
and Favorableness Scales.

		Increments			
		1	2	3	Total
Scale 6 correlated with	1	.13	.20	.29	.21
	2	.14	.23	.30	.22
	3	-.13	-.14	-.27	-.18
	4	-.15	-.15	-.30	-.20
	5	.21	.27	.41	.30

Table 9

Issue II: Correlations between Eventual Outcome Ratings  
and Favorableness Scales.

		Increments			
		1	2	3	Total
Scale 6 correlated with	1	.14	.16	.20	.17
	2	.03	.02	.16	.07
	3	-.26	-.15	-.18	-.20
	4	-.21	-.18	-.20	-.20
	5	.21	.27	.27	.25

These results show a slight tendency on the part of the subjects to predict an outcome which is consistent with their expressed attitudes. For issue I this tendency increased consistently with successive knowledge increments.

Each of the favorableness scales was also correlated with the subject's score on the Social attitude Scale (SAS). Higher SAS scores are indicative of more liberal values. Tables 10 and 11 present these results by value orientation.

Table 10

Issue I: Correlations between SAS Scores and Favorableness  
Ratings for Three Value-orientations.

		N	L	R
	1	.17	.44	-.29
SAS	2	.16	.40	-.26
correlated	3	-.23	-.44	.18
with scale	4	-.27	-.35	.14
	5	.16	.41	-.15



Table 11

Issue II: Correlations between SAS Scores and Favorableness  
Ratings for Three Value-orientations.

		N	L	R
	1	-.02	.39	-.31
SAS	2	.01	.38	-.25
correlated	3	.07	-.38	.35
with scale	4	-.04	-.44	.31
	5	-.03	.42	-.27

These results show that for L messages, and somewhat less for R messages, more liberal SAS scores were associated with the expected scale responses, e.g., greater unfavorableness toward the conservative power structure in L messages. This was equally true for both issues. The results with the value-implicit messages, however, were somewhat different for each issue. For issue II, as expected, there was essentially no correlation between liberalism-conservatism and scale responses. For issue I, correlations ranging between -.27 and .17 emerged in the same direction as the correlations with the L messages. Thus, N messages for issue I were more similar to L messages than they would have been had they been perceived as truly neutral.

Correlations of the scales with SAS scores were also computed for the three knowledge increments. Tables 12 and 13 present these correlations separately for each value orientation for issues I and II.

Table 12

Issue I: Correlations between SAS Scores and Favorableness  
Scales for Three Value-orientation and Three  
Knowledge Increments.

	N			L			R		
	Increments			Increments			Increments		
	1	2	3	1	2	3	1	2	3
Scales									
1	.12	.23	.17	.48	.46	.37	-.36	-.23	-.29
2	.09	.21	.17	.42	.42	.37	-.29	-.21	-.28
3	-.25	-.22	-.23	-.57	-.41	-.35	.20	.13	.22
4	-.31	-.28	-.23	-.43	-.31	-.31	.09	.15	.17
5	.14	.24	.10	.46	.34	.42	-.12	-.11	-.23

Table 13

Issue II: Correlation between SAS Scores and Favorableness  
Scales for Three Value-orientations and  
Three Knowledge Increments.

	N			L			R		
	Increments			Increments			Increments		
	1	2	3	1	2	3	1	2	3
Scales									
1	-.06	-.01	.02	.40	.36	.40	-.30	-.33	-.30
2	-.02	-.01	.02	.40	.36	.42	-.23	-.28	-.25
3	.07	.08	.05	-.37	-.36	-.42	.35	.32	.37
4	.04	-.02	-.13	-.47	-.41	-.44	.28	.31	.34
5	-.06	-.02	-.02	.47	.36	.42	-.15	-.37	-.29

There is little change in the correlations between knowledge increments, and what changes there are reveal no consistent pattern. These results indicate that the knowledge manipulation had little effect on the relationship between liberal-conservative values and expressed attitudes.

SAS scores were also correlated with eventual outcome ratings. These correlations are presented for both issues in Table 14.

For N messages there was no relation between predicted outcome and liberal-conservative values. On issue I, there was a slight

relationship between liberalism and prediction of victory for the liberal forces with L messages, and a movement in this direction with successive increments for R messages.

Table 14

Issues I and II: Correlations between SAS Scores and Eventual Outcome Ratings for Three Value-orientations and Three Knowledge Increments.

	Issue I				Issue II			
	Increments				Increments			
	1	2	3	Total	1	2	3	Total
N	.06	.15	.09	.10	-.05	.04	.02	.00
L	.22	.22	.28	.24	-.06	-.05	-.03	-.05
R	.07	-.02	-.10	-.02	.01	.10	.22	.11

On issue II, L messages produced no relationship, while R messages produced a slight relationship between predicted victory for the liberal forces and conservatism after the third increment.

Combined Scores. As indicated above, correlational results suggested combining results of four scales for further analysis. Thus, a combined score for each subject for each of the three observations was computed according to the formula:  $C = (\text{scale 1} + \text{scale 2}) - (\text{scale 3} + \text{scale 4}) + 20$ .

Since on both issues scales 1 and 2 referred to unfavorableness toward the power structure, while scales 3 and 4 referred to

unfavorableness toward the anti-establishment forces, the C score represented favorableness toward the anti-establishment forces (revolutionaries or protestors). The possible range of C scores was from 8 to 32. The mean C scores for the nine treatment combinations for issues I and II respectively are presented in Tables 15 and 16. Summaries of the analysis of variance are given in Tables 17 and 18.

Table 15

Issue I: Mean Combined Scores for Three Value-orientations  
and Three Knowledge Increments

		Increments			Total
		1	2	3	
Value-orientation	N	18.38	19.24	17.53	18.38
	L	21.41	21.23	20.76	21.13
	R	19.62	22.531	20.14	20.77
	Total	19.80	21.00	19.48	20.09

Table 16

Issue II: Mean Combined Scores for Three Value-orientations  
and Three Knowledge Increments.

		Increments			Total
		1	2	3	
Value-orientation	N	22.02	22.47	21.23	21.91
	L	24.16	24.92	24.18	24.42
	R	18.11	19.29	16.67	18.02
	Total	21.43	22.23	20.69	21.45

Table 17

Issue I: Summary of Analysis of Variance for Combined Scores.

<u>Source</u>	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Value-orientation (V)	2	1796.85	898.42	15.52**
Error (b)	356	20611.56	57.90	
Increments (I)	2	469.37	234.66	26.19**
V X I	4	246.75	61.69	6.89**
Error (W)	712	6379.47	8.96	

\*\*p < .01

Table 18

Issue II: Summary of Analysis of Variance for Combined Scores.

<u>Source</u>	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Value-orientation (V)	2	5649.96	2824.98	38.89**
Error (B)	356	25858.43	72.64	
Increments (I)	2	382.89	191.44	23.78**
V X I	4	102.11	25.53	3.17*
Error (W)	712	5732.33	8.05	

\*\*p < .01

\*p < .05

For both issues the effect of value-orientation was significant at the .01 level,  $F(2, 356) = 15.52$  for issue I, and  $F(2, 356) = 38.89$  for issue II. The results of Duncan multiple-range comparisons for value-orientations are given in Tables 19 and 20. The computational

procedure for dealing with unequal N's was adapted from Krumer (1956).

Table 19

Issue I: Duncan Multiple-Range Comparisons for value-orientations.

	N	R	L
Means	18.383	20.766	21.133
N	18.383	2.383***	2.750***
R	20.766		0.367

Shortest significant ranges ( $p < .05$ ):  $R_2 = 1.283$  (1.112),  $R_3 = 1.170$ .

\*\*\* $p < .001$

Note: Shortest significant ranges in parentheses refer to comparisons involving unequal N's, i.e., those involving neutral (N) messages.

Table 20

Issue II: Duncan Multiple-Range Comparisons for Value-orientations.

	R	N	L
Means	18.022	21.905	24.418
R	18.022	3.883***	6.396***
N	21.905		2.513***

Shortest significant ranges ( $p < .05$ ):  $R_2 = (1.245)$ ,  $R_3 = 1.512$ .

\*\*\* $p < .001$

On issue I, combined scores (favorableness to the revolutionaries) on both R and L messages were significantly higher ( $p < .001$ ) than N messages but did not differ from each other. On issue II, combined scores (favorableness to protesters) for the R value-orientation were

significantly lower ( $p < .001$ ) than N and L, while N message scores were significantly lower than L ( $p < .001$ ).

For both issues, the main effect for knowledge increments was also significant,  $F(2, 712) = 26.19, p < .01$  for issue I, and  $F(2, 712) = 23.78, p < .01$  for issue II. Duncan multiple-range comparisons for increments are presented in Tables 21 and 22

Table 21

Issue I: Duncan Multiple-Range Comparisons for Knowledge Increments.

		Increments		
		Third	First	Second
	Means	19.477	19.803	21.001
Third	19.477		0.326	1.524***
First	19.803			1.198***

Shortest significant ranges ( $p < .05$ ):  $R_2 = 0.437, R_3 = 0.460$ .

\*\*\* $p < .001$

Table 22

Issue II: Duncan Multiple-Range Comparisons for Knowledge Increments.

		Increments		
		Third	First	Second
	Means	20.692	21.428	22.226
Third	20.692		0.556**	1.534***
First	21.428			0.798***

Shortest significant ranges ( $p < .05$ ):  $R_2 = 0.4144, R_3 = 0.4362$ .

\*\* $p < .01$

\*\*\* $p < .001$



On issue I, the combined scores for the first and third increments did not differ significantly, however, both were significantly ( $p < .001$ ) lower than scores for the second increment. On issue II, combined scores for the second increment were again significantly greater than for either of the two ( $p < .001$ ). Scores for the first increment were significantly ( $p < .01$ ) greater than those for the third.

The interaction (value-orientation by knowledge increments) was significant for both issues,  $F(4, 712) = 6.89, p < .01$  for issue I, and  $F(4, 712) = 3.17, p < .05$  for issue II. Figures 1 and 2 present plots of these interactions for issues I and II respectively.

Figure I

Issue I: Mean Combined Scores Plotted Against Increments for  
Each of Three Value-orientations

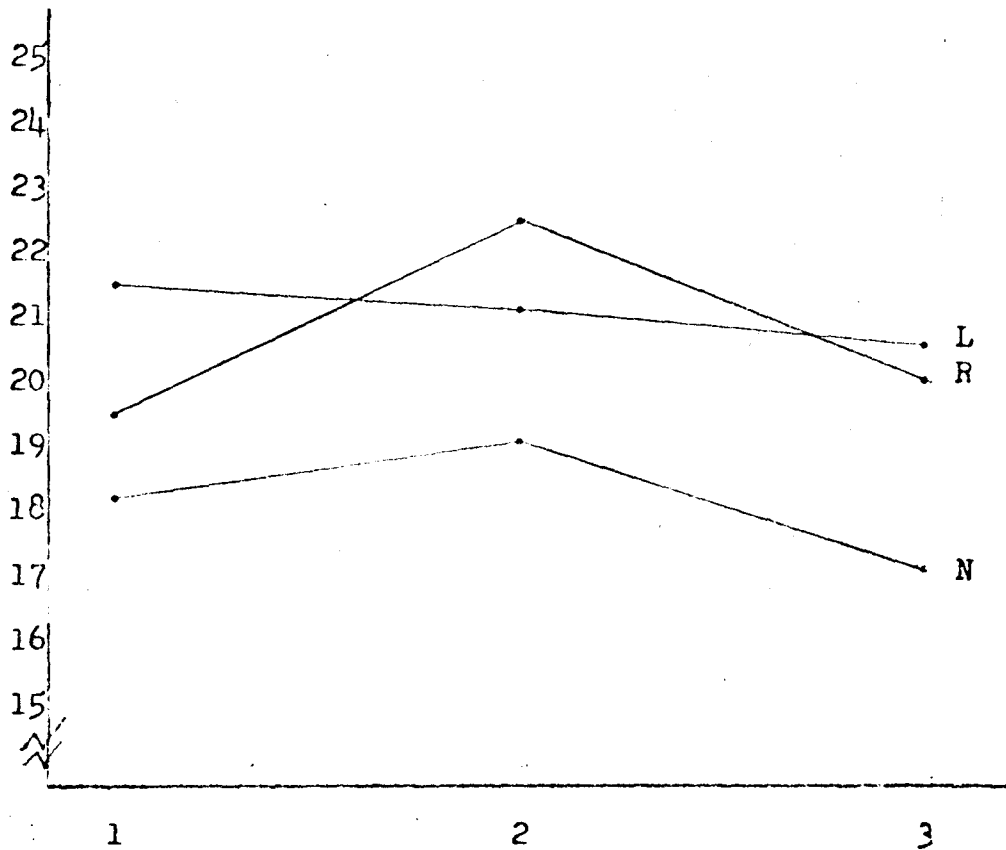
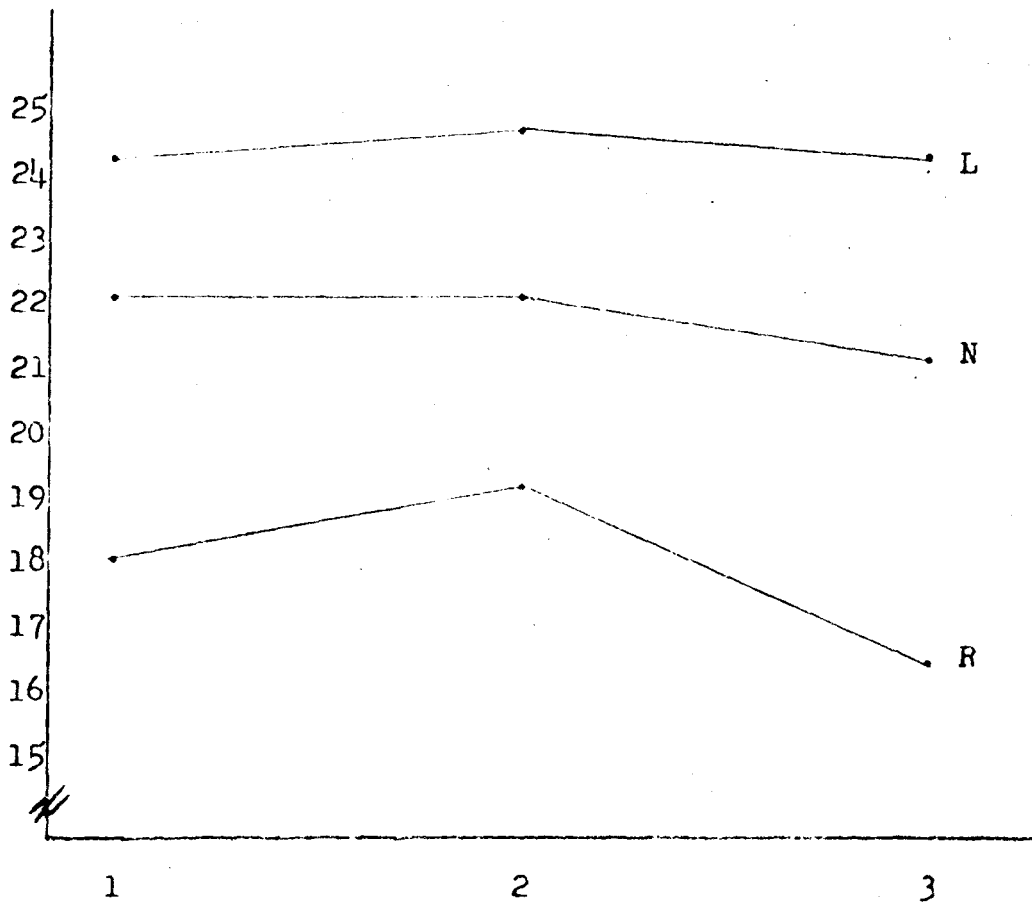


Figure 2

Issue II: Mean Combined Scores Plotted against Increments  
for Each of Three Value-orientations.



The patterns revealed in Figures 1 and 2 are similar in that the interaction is mainly the result of differences for the R value-orientation. On both issues the mean combined scores for the second knowledge increment for the R orientation were considerably higher than scores for either of the other two increments. This was less than for the other orientations.

Percentage Gain Scores. Since the polarisation hypothesis did not predict polarization in only one direction, combined scores would likely mask such effects. Defining polarization as unidirectional movement away from the neutral point, it was necessary to devise a score which would reflect both positive and negative polarization. The positive direction was defined as the direction in which the subject's attitude (measured by combined scores) deviated from the neutral on the first observation (second or third in the case in which there was no earlier deviation). The score assigned for this movement was the percentage of possible movement (gain) in the positive direction. If the gain was negative, the percentage was also negative. Thus, two percentage gain scores were computed for each subject from his three combined scores according to the following formulae ( $L_1$  = lower limit of combined scores = 8;  $L_2$  = upper limit = 32;  $O_1, O_2, O_3$  refer to the three successive observations):

First % gain score:

$$\begin{aligned} \text{denominator} &= \begin{matrix} (A) & (B) \\ L_1 - O_1 & \text{or } L_2 - O_1 \end{matrix} \text{ whichever smaller} \\ \text{numerator} &= O_1 - O_2 \text{ if denominator is type A} \\ &= O_2 - O_1 \text{ if denominator is type B} \end{aligned}$$

Second % gain score:

denominator =  $L_1 - O_2$  if first denominator is type A

=  $L_2 - O_2$  if first denominator is type B

numerator =  $O_2 - O_3$  if first denominator is type A

=  $O_3 - O_2$  if first denominator is type B

For purposes of analysis, the 360 subjects were divided into high, medium, and low categories on the basis of their SAS scores. The possible range of SAS scores (with a constant of 100 added) is from 28 to 172, the higher scores being indicative of liberalism. The actual range in this study was from 64 to 171 with a median of 113. The following categories were used: 64 - 108, low; 108 - 119, midium; and 119 - 171, high. Subjects who scored 108 and 119 were randomly assigned to categories to equalize the number of subjects in each category.

Tables 23 and 24 give the mean percentage gain scores for value-implicit (N) messages and value-explicit (L and R) messages for two knowledge increments for issues I and II respectively. The results of the 3 x 2 x 2 repeated measures analysis of variance are presented in Tables 25 and 26.

Table 23

Issue I: Mean Percentage Gain Scores for Two Value-orientations  
and Two Knowledge Increments.

SAS	Increments	Value-implicit	Value-explicit	Total
Hi	1	-.133	-.209	-.171
	2	.017	.149	.083
	Total	-.058	-.030	-.044
	(N)	(58)	(62)	(120)
Med	1	-.150	-.040	-.095
	2	.058	-.118	-.030
	Total	-.046	-.079	-.063
	(N)	(60)	(60)	(120)
Lo	1	-.074	-.205	-.139
	2	.069	.027	.048
	Total	-.002	-.089	-.046
	(N)	(62)	(58)	(120)
Total		-.035	-.066	-.050

Table 24

Issue II: Mean Percentage Gain Scores for Two Value-orientations  
and Two Knowledge Increments.

SAS	Increments	Value-implicit	Value-explicit	Total
Hi	1	-.227	.160	-.033
	2	-.287	.090	-.049
	Total	-.257	.125	-.041
	(N)	(62)	(58)	(120)
Med	1	-.044	-.223	-.134
	2	-.362	.200	-.081
	Total	-.203	-.012	-.081
	(N)	(59)	(61)	(120)
Lo	1	-.111	-.008	-.060
	2	-.005	-.128	-.066
	Total	-.058	-.068	-.053
	(N)	(59)	(61)	(120)
Total		-.173	-.045	-.064

Table 25

Issue I: Summary of 3 x 2 x 2 Analysis of Variance for  
Percentage Gain Scores.

<u>Source</u>	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
SAS (S)	2	0.050	0.025	1
Value-orientation (V)	1	0.163	0.163	1
S X V	2	0.390	0.195	1
Error (B)	354	248.367	0.702	
Increments (I)	1	5.186	5.186	7.11**
S X I	2	1.140	0.570	1
V X I	1	0.001	0.001	1
S X V X I	2	1.986	0.993	1.36
Error (W)	354	257.916	0.729	

\*\*p < .01

Table 26

Issue II: Summary of 3 x 2 x 2 Analysis of Variance for  
Percentage Gain Scores

<u>Source</u>	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
SAS (S)	2	0.265	0.132	1
Value-orientation (V)	1	6.316	6.316	7.33**
S X V	2	4.614	2.307	2.68
Error (B)	354	305.307	0.862	
Increments (I)	1	0.004	0.004	1
S X I	2	0.431	0.216	1
V X I	1	1.295	1.295	1.25
S X V X I	2	7.734	3.867	3.72*
Error (W)	354	368.044	1.040	

\*p < .05 \*\*p < .01

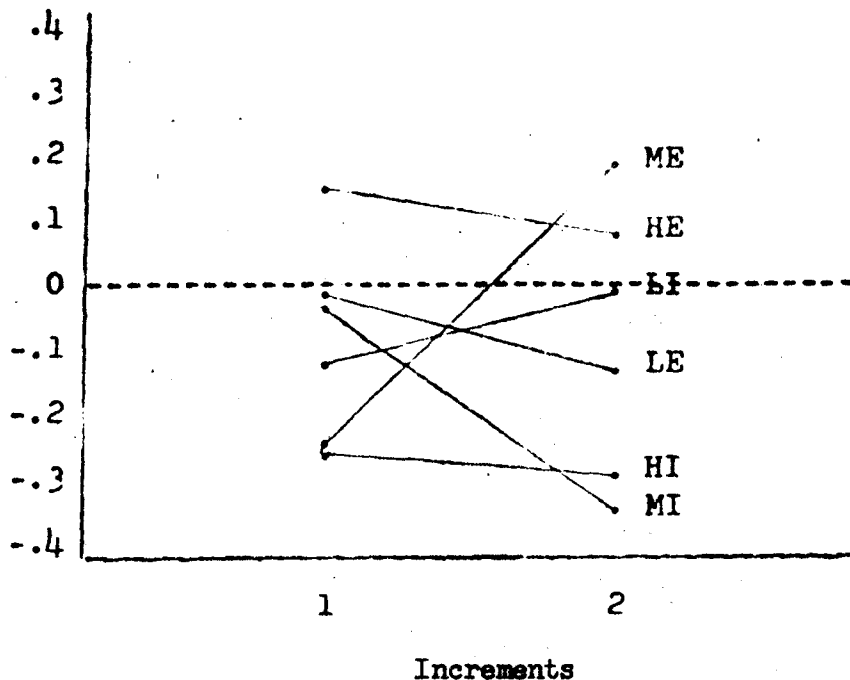


On issue I, the effect of knowledge increments was significant  $F(1, 354) = 7.11, p < .01$  reflecting the difference between the negative percentage gain ( $M = -.135$ ) on the first score, and the positive percentage gain ( $M = .034$ ) on the second score. None of the other effects for issue I was significant.

On issue II, the effect of value-orientation was significant  $F(1, 354) = 7.33, p < .01$ , reflecting the difference between the negative percentage gain with value-implicit messages and the positive percentage gain with value-implicit messages. The triple interaction ( $S \times V \times I$ ) was also significant,  $F(2, 354) = 3.72, p < .05$ . A plot of this interaction is given in Figure 3.

Figure 3

Issue II: Mean Percentage Gain-Scores Plotted against Increments for Three Level of SAS and Two Value-orientations.



Note: H = high; M = medium; L = low on SAS. I = value-implicit;  
E = value-implicit

One of the most striking features of the interaction is the great increase, from negative to positive percentage gain, for medium SAS scores receiving value-explicit communications. This contrasts with the corresponding decrease with value-implicit messages.

Analysis with three levels of value-orientation (N, L, R) was also carried out for percentage gain scores in order to detect any new effects resulting from the two versions of the value-explicit messages. Mean percentage gain scores are given in Tables 27 and 28, and the results of the analysis of variance are presented in Tables 29 and 30.

Table 27

Issue I: Mean Percentage Gain Scores for Three Value-orientations  
and Two Knowledge Increments.

SAS	Increments	N	L	R	Total
Hi	1	-.133	-.198	-.222	-.171
	2	0.17	-.066	.379	.083
	Total	-.058	-.132	.078	-.044
	(N)	(58)	(32)	(30)	(120)
Med	1	-.150	-.055	-.028	-.095
	2	.058	-.101	-.133	-.030
	Total	-.046	-.078	-.081	-.063
	(N)	(60)	(28)	(32)	(120)
Lo	1	-.074	-.036	-.385	-.139
	2	.069	.053	.000	.048
	Total	-.002	.008	-.192	-.046
	(N)	(62)	(30)	(28)	(120)
Total		-.035	-.067	-.065	-.050

Table 28

Issue II: Mean Percentage Gain Scores for Three Value-orientations  
and Two Knowledge Increments.

SAS	Increments	N	L	R	Total
HI	1	-.227	.337	-.043	-.033
	2	-.287	-.024	.221	-.049
	Total	-.257	.156	.089	-.041
	(N)	(62)	(31)	(27)	(120)
Med	1	-.044	-.077	-.364	-.134
	2	-.362	.543	-.132	-.081
	Total	-.203	.233	-.243	-.108
	(N)	(59)	(30)	(31)	(120)
Lo	1	-.111	.112	-.117	-.060
	2	-.005	-.009	-.236	-.066
	Total	-.058	.052	-.176	-.053
	(N)	(59)	(29)	(32)	(120)
Total		-.173	.147	-.110	-.080

Table 29

Issue I: Summary of 3 x 3 x 2 Analysis of Variance for  
Percentage Gain Scores.

<u>Source</u>	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
SAS (S)	2	0.051	0.026	< 1
Value-orientation (V)	2	0.167	0.084	< 1
S x V	4	2.924	0.731	1.05
Error (B)	351	244.452	0.696	
Increments (I)	1	5.188	5.188	7.09**
S x I	2	1.211	0.605	< 1
V x I	2	1.099	0.549	< 1
S x V x I	4	3.189	0.797	1
Error (W)	351	256.919	0.732	

\*\* p < .01

Table 30

Issue II: Summary of 3 x 3 x 2 Analysis of Variance for  
Percentage Gain Scores.

<u>Source</u>	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
SAS (S)	2	0.259	0.130	< 1
Value-orientation (V)	2	12.862	6.431	7.56**
S x V	4	6.841	1.710	2.01
Error (R)	351	298.581	0.851	
Increments (I)	1	0.004	0.004	< 1
S x I	2	0.431	0.211	< 1
V x I	2	1.418	0.709	< 1
S x V x I	4	11.589	2.897	2.81*
Error (W)	351	362.036	1.031	

\*\* p < .01

\* p < .05

On issue I, again only the effect for increments was significant,  $F(1, 351) = 7.09, p < .01$ .

On issue II, the effect of value-orientation was significant,  $F(2, 351) = 7.56, p < .01$ . The results of Duncan multiple-range comparisons for the three value-orientations are given in Table 31.

Table 31

Issue II: Duncan Multiple-Range Comparisons for Value-orientations.

Value-orientations			
	N	R	L
Means	-.173	-.110	.147
N	-.173	.063	.320***
R	-.110		.257*

Shortest significant ranges ( $p < .05$ ):  $R_2 = .1904 (.1649)$   $R_3 = .1736$ .

\*\*\*  $p < .001$

\*  $p < .05$

Percentage gain with L messages was positive and significantly different from negative gain with N messages ( $p < .001$ ) and R messages ( $p < .05$ ) which did not differ from each other. No new effects emerged with this analysis, but the  $S \times V$  interaction approached significance ( $p < .10$ ). Figure 4 is a plot of this interaction. Figure 5 presents a similar plot for issue I for comparison purposes.

Figure 4

Issue II: Mean Percentage Gain Scores Plotted Against SAS  
Categories for Each of Three Value-orientations.

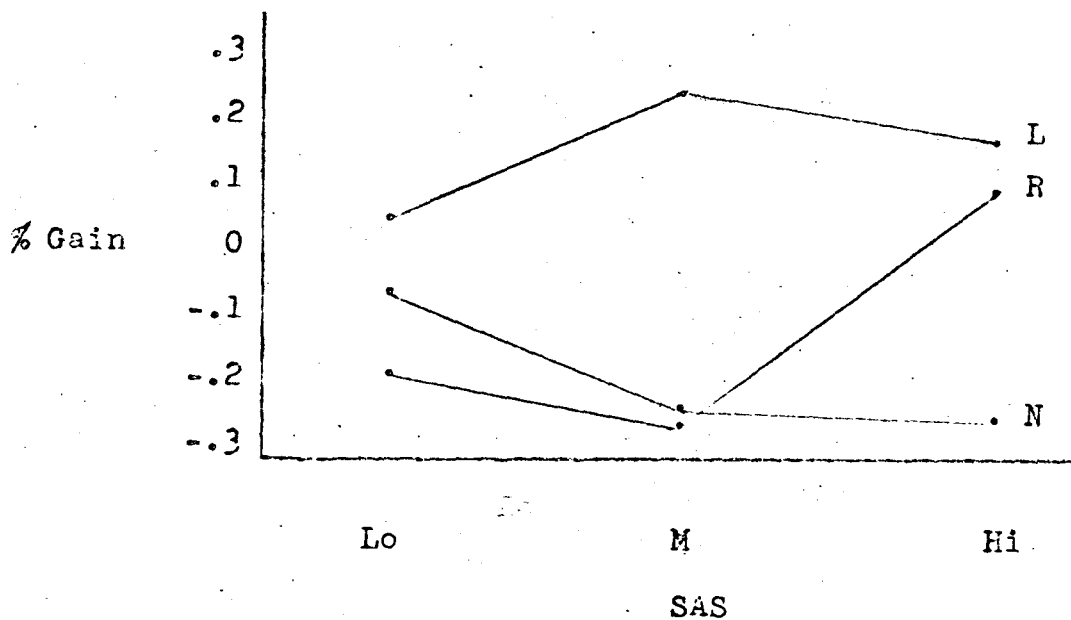


Figure 5

Issue I: Mean Percentage Gain Scores Plotted Against SAS  
Categories for Each of Three Value-orientations.

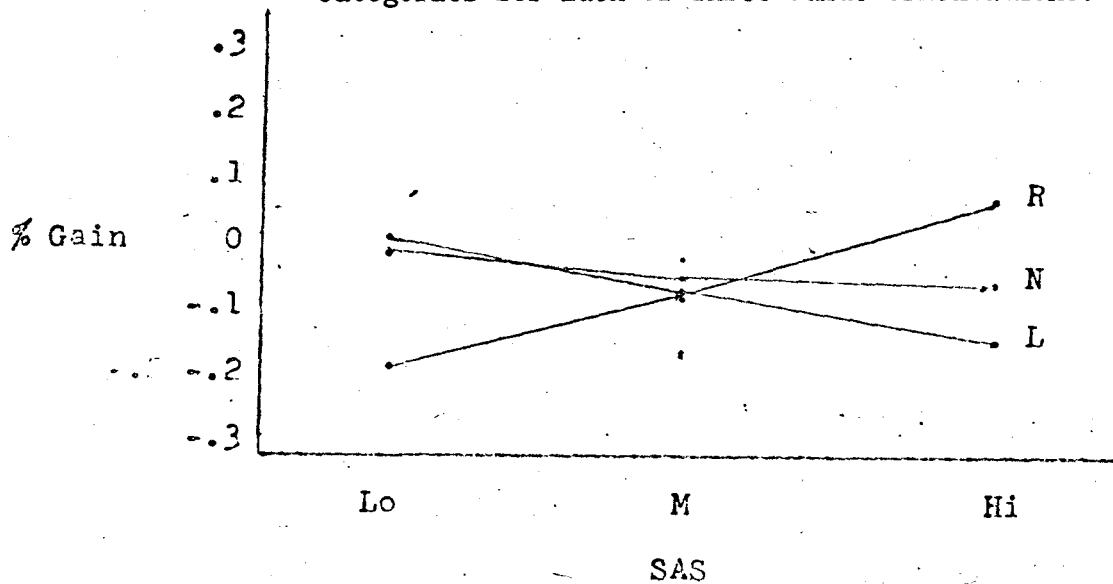




Figure 4 shows the markedly different pattern with L messages, and the positive gain scores with R messages for high SAS scores are responsible for the interaction approaching significance. The non-significant plot for issue I shows little similarity to issue II.

#### Discussion

The major prediction of this study, that increasing knowledge about an issue would lead to polarization of attitudes was not confirmed. The direct test of the polarization hypothesis with percentage gain scores not only failed to show significant polarization, but, in fact, showed a depolarization effect as seen in the negative percentage gain means for both issues. (-5.7% for issue I and -6.4% for issue II). Further, on the basis of the impression formation study by Manis, Gleason, and Dawes (1966), greater polarization should be expected for the second percentage gain score. The results also failed to confirm this prediction. On issue II, there was no difference for the two scores, while on; issue I the results were quite ambiguous (13% depolarization for the first score versus 3% polarization for the second score).

This is not to say, however, that there was no attitude change with increased knowledge. Although the messages employed in this experiment were not persuasive, and presumably the changes observed were not due to yielding due to their content, the results for combined scores showed highly significant effects for knowledge increments. On both issues the highest mean combined scores (slightly favorable to the anti-establishment forces) were observed for the second knowledge increment, and the

lowest (about neutral) were observed on the third increment (although the difference between first and third for issue I was non-significant). If the effects of the addition of knowledge were constant, such a pattern (a shift away from the neutral point with the second increment and back again with the third) would not have occurred. Although this effect might be interpreted as polarization followed by depolarization, too few knowledge increments were included in this study to warrant such an assumption. In addition, since polarization was predicted to be controlled by individual values, the effect for the entire sample is actually disconfirming of the polarization hypothesis.

Any interpretation based on the assumption that reversal toward the neutral point was the result of subjects becoming more unsure of their position is called into question by the result that the intercorrelations of the four favorableness scales increased with successive knowledge increments. Neither is it likely that the observed change is due simply to the characteristics of the messages since it was not issue-specific.

In any case, these results may be added to the list of examples cited above of attitude change resulting from the addition of information without overt persuasion.

It was also hypothesized that polarization would occur in the direction specified by an individual's values and that greater polarization would occur with stronger values. Correlations between SAS scores and expressed attitudes for the L and R messages on both issues were in the expected direction, such that more liberal values were associated

with favorableness toward the liberal side of the controversy.

Also as expected, there was virtually no correlation between SAS scores and attitude for value-implicit messages on issue II. With issue I, however, the correlations for value-implicit messages were in the same direction as those for L messages, indicating that subjects interpreted the ambiguous events as a revolution of the left. Perhaps it is the result of the predominance of revolutions of the left in Central America. In any case, it makes interpretation of the results of issue I difficult.

The above findings indicate that to an extent, subjects responded to the attitude scales in accordance with their values. However, the fact that the knowledge manipulation had no effect on the relationship between values and expressed attitudes is contrary to the polarization-value hypothesis.

The direct test of this hypothesis with percentage gain scores also failed. The main effect for trichotomized SAS scores yielded F-ratios of less than one in all analyses of variance.

It was also predicted that polarization would be greater when values were made explicit. In comparing the characteristics of value-implicit messages with value-explicit messages, it can be argued that the former were more ambiguous, as intended, since the favorableness scale intercorrelations were generally lower than they were for value-explicit messages. Further, given a sample with a median SAS score of 113 (slightly liberal) it could be expected that mean combined scores for N messages would fall between those for L and R messages. This was true for issue II. On issue I, however, mean combined scores for N messages

were significantly lower than the means for L and R messages which did not differ significantly. This reflects the fact that the revolutionaries were given more favorable ratings when they were identified with a specific cause (regardless of whether it were liberal or reactionary) than when they were not identified with a cause at all. The situation described for issue II, on the other hand, mentioned the specific issue of school boundary redistricting. Since this issue has become very closely identified with the issue of desegregation (or segregation) which can be presumed to be very involving for the subjects, a theory stressing involvement as a sine qua non for polarization (Moscovici and Zavalloni, 1969) would predict results more consistent with polarization for issue II.

The significant interaction for combined scores between value-orientation and knowledge increments is the result of a pattern (most noticeable on issue I) in which the rise in scores on the second increment is sharpest for R messages and barely visible for L messages, with N messages falling in between. Again the assumption of the predominance of revolutions of the left may explain this finding of greater fluctuation when the issue concerns a revolution of the right.

The direct test of the explicit value hypothesis with percentage gain scores is in the prediction of a main effect for value-orientation. This was not found for issue I. On issue II the negative polarization (-17.3%) with value-implicit messages differed significantly from the slight polarization (4.5%) with value-explicit messages providing some

slight support for the hypothesis. Even this support is somewhat diluted by the further finding that this effect is due to polarization occurring with L messages (14.7%) as opposed to the negative polarization for R (-11%) and N (-17.3%) messages which did not differ from each other. Hence, the hypothesis was supported only for the L version of the value-explicit messages and only with a meager polarization effect.

The interaction between three levels of SAS scores and three value-orientations for issue II which approached significance (Table 4) again points up the gross difference between L and R messages, in this instance as a function of values.

Data from the present study also bear on the question of whether individuals will invent beliefs consistent with established affective responses (Rosenberg, 1956). The negative polarization (-17.3%) for value-implicit messages on issue II suggests that they do not. Rather attitudes depolarize with lack of support. Perhaps many of the subjects in this experiment did polarize, but the high variance may well have masked these effects which were not detected by any of the experimental variables. The correlations between attitudes and expected outcome showed that subjects tend to predict outcomes consistent with their attitudes. This provides some support for a consistency interpretation.

One of the problems in assessing the validity of the polarization hypothesis was the large number of subjects whose expressed attitudes crossed over the neutral point on successive measurements. Since polarization as it had been theoretically spelled out, required an operational definition specifying unidirectional movement in the

original direction, such cross-overs resulted in sometimes large negative percentage scores. This difficulty is bound up with the more general problem of how neutral attitudes are to be considered. Scott (1968) proposed that perhaps favorableness and unfavorableness are separate continua in which case neutral attitudes would never be made between indifferent and ambivalent attitudes. Weiss (1968) made a similar distinction between "no opinion" and "can't decide" responses. Such a consideration in the present study may have been helpful.

The failure to confirm the polarization propositions may be due to the failure of the stimulus materials to engage values (Smith, 1947) or to involve the subjects (Moscovici and Zavalloni, 1969). The fact that the most involving and value engaging messages (I messages on issue II) were the only ones to lend any support at all to the propositions supports this interpretation.

Despite the results of Bateson (1966) and Flanders and Thistlethwaite (1967) who found the risky-shift without group interaction Moscovici and Zavalloni (1969) propose to conceptualize "the group as polarizer and the individual as averager." The results of this study cannot be interpreted as opposed to this view.

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Appendix I

THE SOCIAL ATTITUDES SCALE

Given below are statements on various social problems about which we all have beliefs, opinions, and attitudes. We think differently about such matters, and this scale is an attempt to let you express your beliefs and opinions. There are no right or wrong answers. Please respond to each of the items as follows:

Agree very strongly	+3	Disagree very strongly	-3
Agree strongly	+2	Disagree strongly	-2
Agree	+1	Disagree	-1

For example, if you agree very strongly with a statement, you would write +3 in the space to the left beside that statement, but if you should happen to disagree with it you would put -1 in front of it. Respond to each statement as best you can. Go rapidly but carefully. Do not spend too much time on any one statement; try to respond and then go on. Don't go back once you have marked a statement.

1. \_\_\_\_\_ Individuals who are against churches and religions should not be allowed to teach in colleges.
2. \_\_\_\_\_ Large fortunes should be taxed fairly heavily over and above income taxes.
3. \_\_\_\_\_ Both public and private universities and colleges should get generous aid from both state and federal governments.
4. \_\_\_\_\_ Science and society would both be better off if scientists took no part in politics.
5. \_\_\_\_\_ Society should be quicker to throw out old ideas and traditions and to adopt new thinking and customs.
6. \_\_\_\_\_ To ensure adequate care of the sick, we need to change radically the present system of privately controlled medical care.
7. \_\_\_\_\_ If civilization is to survive, there must be a turning back to religion.
8. \_\_\_\_\_ A first consideration in any society is the protection of property rights.
9. \_\_\_\_\_ Government ownership and management of utilities leads to bureaucracy and inefficiency.
10. \_\_\_\_\_ If the United States takes part in any sort of world organization, we should be sure that we lose none of our power and influence.

11. \_\_\_\_\_ Funds for school construction should come from state and federal government loans at no interest or very low interest.
12. \_\_\_\_\_ Inherited racial characteristics play more of a part in the achievement of individuals than is generally known.
13. \_\_\_\_\_ Federal government aid for the construction of schools is long overdue, and should be instituted as a permanent policy.
14. \_\_\_\_\_ Our present economic system should be reformed so that profits are replaced by reimbursements for useful work.
15. \_\_\_\_\_ Public enterprises like railroads should not make profits; they are entitled to fares sufficient to enable them to pay only a fair interest on the actual cash capital they have invested.
16. \_\_\_\_\_ Government laws and regulations should be such as first to ensure the prosperity of business since the prosperity of all depends on the prosperity of business.
17. \_\_\_\_\_ All individuals who are intellectually capable of benefiting from it should get college education at public expense if necessary.
18. \_\_\_\_\_ The well-being of a nation depends mainly on its business and industry.
19. \_\_\_\_\_ True democracy is limited in the United States because of the special privileges enjoyed by business and industry.
20. \_\_\_\_\_ The gradual social ownership of industry needs to be encouraged if we are ever to cure some of the ills of our society.
21. \_\_\_\_\_ There are too many professors in our colleges and universities who are radical in their political and social beliefs.
22. \_\_\_\_\_ There should be no government interference with business and trade.
23. \_\_\_\_\_ Some sort of religious education should be given in public schools.
24. \_\_\_\_\_ Unemployment insurance is an inalienable right of the working man.
25. \_\_\_\_\_ Individuals with the ability and foresight to earn and accumulate wealth should have the right to enjoy that wealth without government interference and regulations.

Appendix I (continued)

Social attitudes scale, Page 3

26. \_\_\_\_\_ The United Nations should be whole-heartedly supported by  
all of us.

Please make sure you have marked every statement. Thank you.

Appendix II

Messages for Issue I

Fighting erupted again today in the streets surrounding the capitol in the city of Bazaine, as revolutionaries, led by Juan Rasada, renewed attempts to force surrender of the ruling government of Bazania.

Government forces moved quickly to quell the violence which began about 4 a.m. when a fire bomb was hurled at a guardhouse outside the presidential palace. Within an hour, at least eight other fires were reported within a mile of the scene. Attempts to extinguish the blazes were hampered by exchanges of gunfire between revolutionaries and government troops.

By sunrise, a full-scale battle had broken out, with bands of revolutionaries seizing residential buildings from which to fire at troops attempting to clear the area. Neither side could gain the upper hand as fighting continued throughout the day.

At noon, the government radio station broadcast an appeal for calm by President Jose Ponzio, who has been in power only three months. According to the message, government troops were in control of the capital area and the government had no intention of surrendering. Observers disputed both these claims, noting that this latest series of incidents put the government in its most unfavorable position since the crisis of three weeks ago.

Meanwhile, revolutionary radio broadcasts predicted the eminent fall of the government and once more called on the president to accept the revolutionaries' program immediately or face total war.

The position of the ruling Bazanian government appeared unchanged today in wake of continued fighting in the capitol city of Bazaine. Government forces secured the area around the capitol as the cabinet met in emergency session, but revolutionaries had seized several parts of the city in their strongest show of force to date.

The city's business and industry remained at a virtual standstill and a curfew once more was imposed. Despite this, most of the heavy fighting began after dark, accompanied by a rash of fires and apparent sabotage. President Jose Ponzio proclaimed the continued revolutionary activity "outrageous and unlawful" and rejected suggestions that he meet with representatives of the movement in an attempt to bring peace to this torn country.

Revolutionary radio continued to broadcast, despite government harassment, and promised total victory "within days" unless the government submitted to its demands, which would, in effect, turn over the reins of power to the movement. It also was reported by revolutionary leader Juan Rasada that the revolutionaries had obtained a fresh supply of arms.

A source within the government said that most cabinet members favor an all-out assault against revolutionary strongholds, coupled with mass arrests of sympathizers as a move to put down the rebellion.

The assassination of economic minister Ricardo Zelarnas of Bazania today moved this tiny country toward a state of unprecedented crisis.

It was Zelarnas, closest advisor to President Jose Panzio, against whom most of the revolutionary charges had been directed.

Street fighting continued at about the same level, but a few observers doubted that, in light of the assassination, the government policy of massive retaliation and mass arrests would be sufficient to hold together the shaken government. On the other hand, there were widespread reports that the revolution was suffering from a severe shortage of food and ammunition.

Zelarnas was killed instantly by gunfire which opened up on him as he crossed the grounds of the capitol. No arrests were reported, though the army immediately sealed off the area from which the shots were fired. Zelarnas had come to power with President Ponzio and had assumed complete control of the government economic policies.

In announcing the assassination, on revolutionary radio, Juan Rasada claimed achievement of one of the major goals of the movement. Still, he pressed for surrender of government forces.

President Ponzio, on the other hand, praised his close friend in an emotional announcement of the assassination and proclaimed once more that there would be no surrender.



Messages for Issue I

Fighting erupted again today in the streets surrounding the capitol in the city of Bazaine, as revolutionaries, led by Juan Rasada, renewed attempts to force surrender of the conservative government of Bazania.

Government forces moved quickly to quell the violence, which began about 4 a.m. when a firebomb was hurled at a guardhouse outside the presidential palace. Within an hour, at least eight other fires were reported within a mile of the incident. Attempts to extinguish the blazes were hampered by exchanges of gunfire between revolutionaries and government troops.

By sunrise, a full-scale battle had broken out with bands of revolutionaries seizing residential buildings from which to fire at troops attempting to clear the area. Neither side could gain the upper hand as fighting continued throughout the day.

At noon, government radio broadcast an appeal for calm by President Jose Povizio, who was brought to power by the industrial interests only three months ago. According to the message, government troops were in control of the capitol area and the government had no intention of surrendering. Observers disputed both these claims, noting that this latest series of incidents put the government in its most unfavorable position since the crisis of three weeks ago. At that time the country's poor people pressed a series of strong demands on the new government.

Meanwhile, revolutionary radio broadcasts predicted the eminent fall of the government and once more called on the president to accept the revolutionaries program or face total war. The program calls for redistribution of land, a tax system less favorable to foreign industry and increased federal control in all areas.

## Messages for Issue I

The position of the conservative Bazanian government appeared unchanged today in wake of continued fighting in the capitol city of Bazaine. Government forces secured the area around the capitol as the cabinet met in emergency session, but revolutionaries had seized their strongest show of force to date.

The city's business and industry remained at a virtual standstill and a curfew once more was imposed. Despite this, most of the heavy fighting began after dark, accompanied by a rash of fires and incidents of apparent sabotage. President Jose Ponzio proclaimed the continued revolutionary activity "outrageous and unlawful" and rejected suggestions that he meet with representatives of the liberal movement in an attempt to bring peace to this torn country.

Revolutionary radio continued to broadcast despite government harassment, and promised total victory "within days" unless the government submitted to its demands which would, in effect, turn over the reins of power to the socialist revolutionaries. It also was reported by revolutionary leader Juan Rasada that the revolutionaries had obtained a fresh supply of arms.

A source within the government said that most cabinet members favored an all-out assault against revolutionary strongholds, coupled with mass arrests of sympathizers as a move to put down the rebellion.

**Messages for Issue I**

The assassination of economic minister Ricardo Zelarnas of Bazania today moved this tiny country toward a state of unprecedented crisis.

It was Zelarnas, closest adviser to President Jose Ponzio, against whom most revolutionary charges of "fascism" had been directed.

Street fighting continued at about the same level, but a few observers doubted that, in light of the assassination, the government policy of massive retaliation and mass arrests would be sufficient to hold together the shaken conservative government. On the other hand, there were widespread reports that the revolution was suffering from a severe shortage of food and ammunition.

Zelarnas was killed instantly by gunfire which opened up on him as he crossed the grounds of the capitol. No arrests were reported, though the army immediately sealed off the area from which the shots were fired. Zelarnas had come to power with President Ponzio's military coup and had assumed complete control of the government's program to increase aid to large landowners.

In announcing the assassination on revolutionary radio, Juan Rasada claimed achievement of one of the major goals of the movement. Still he pressed for surrender of government forces.

President Ponzio, on the other hand, praised his close friend in an emotional announcement of the assassination and proclaimed once more that there would be no surrender.

Fighting erupted again today in the streets surrounding the capitol in the city of Bazaine, as revolutionaries, led by Juan Rasada, renewed attempts to force surrender of the liberal government of Bazania.

Government forces moved quickly to quell the violence, which began about 4 a.m. when a firebomb was hurled at a guardhouse outside the presidential palace. Within an hour, at least eight other fires were reported within a mile of the scene. Attempts to extinguish the blazes were hampered by exchanges of gunfire between revolutionaries and government troops.

By sunrise, a full-scale battle had broken out with bands of revolutionaries seizing residential buildings from which to fire at troops attempting to clear the area. Neither side could gain the upper hand as fighting continued throughout the day.

At noon, government radio broadcast an appeal for calm by President Jose Ponzio who was brought to power by the socialists only three months ago. According to the message, government troops were in control of the capitol area and the government had no intention of surrendering. Observers disputed both these claims, noting that this latest series of incidents put the government in its most unfavorable position since the crisis of three weeks ago. At that time industrial owners pressed a series of strong demands on the new government.

Meanwhile, revolutionary radio broadcasts predicted the eminent fall of the government and once more called on the president to accept the revolutionaries' program or face total war. The program calls for return of recently-distributed land to its original owners, restoration of the tax system favorable to foreign industry and relaxation of federal control in all areas.

The position of the liberal Bazanian government appeared unchanged today in wake of continued fighting in the capitol city of Bazaine. Government forces secured the area around the capitol as the cabinet met in emergency session, but revolutionaries had seized several parts of the city in their strongest show of force to date.

The city's business and industry remained at a virtual standstill and a curfew once more was imposed. Despite this, most of the heavy fighting began after dark, accompanied by a rash of fires and incidents of apparent sabotage. President Jose Ponzio proclaimed the continued revolutionary activity "outrageous and unlawful" and rejected suggestions that he meet with representatives of the conservative movement in an attempt to bring peace to this torn country.

Revolutionary radio continued to broadcast despite government harassment and promised total victory "within days" unless the government submitted to its demands which would, in effect, return power to the anti-communist government which fell three months ago. It also was reported by revolutionary leader Juan Rasada that the revolutionaries had obtained a fresh supply of arms.

A source within the government said that most cabinet members favored an all-out assault against revolutionary strongholds, coupled with mass arrests of sympathizers as a move to put down the rebellion.

The assassination of economic minister Ricardo Zelarnas of Bazania today moved this tiny country toward a state of unprecedented crisis.

It was Zelarnes, closest advisor to President Jose Ponzio, against whom most revolutionary charges of "socialism" had been directed.

Street fighting continued at about the same level, but a few observers doubted that, in light of the assassination, the government policy of massive retaliation and mass arrests would be sufficient to hold together the shaken liberal government. On the other hand, there were widespread reports that the revolution was suffering from a severe shortage of food and ammunition.

Zelarnas was killed instantly by gunfire which opened up on him as he crossed the grounds of the capitol. No arrests were reported, although the army immediately sealed off the area from which the shots were fired. Zelarnas had come to power with President Ponzio's Social Reform Party, and had assumed complete control of the government's land redistribution policy.

In announcing the assassination on revolutionary radio, Juan Rasada claimed achievement of one of the major goals of the movement. Still, he pressed for surrender of government forces.

President Ponzio, on the other hand, praised his close friend in an emotional announcement of the assassination and proclaimed once more that there would be no surrender.

Pickets representing Parents Concerned About Schools surrounded the school administration in Elyria, Ohio, this morning in protest of the board of education's proposed realignment of school boundaries.

Parents, mostly mothers, formed picket lines beginning at 8 a.m. and remained until shortly before the end of the school day. Police were present from the beginning, but the protest was peaceful and no incidents occurred.

About 10 a.m. a group of five protesters, led by Mrs. Joan Taylor, attempted to enter the building to make an appointment with School Supt. Edward Burton. They were told that Burton was out of town for the day and would not be available. The group of five conferred briefly, then announced plans to return again each day until a meeting with the superintendent was granted.

In a news release, the Parents Concerned About Schools called the recent proposal from the board for redistricting "an attempt to take control of schools away from parents." The proposal, it was charged, was "the result of an underhanded deal with state school authorities in Columbus, consummated without regard to the feelings of the taxpayers of Elyria."

School administration officials denied these charges, saying that the redistricting proposal is the result of careful study by both local school authorities and state officials. A spokesman for the board termed the protest "unnecessary."

For the second consecutive day, Parents Concerned About Schools formed picket lines at the school administration offices in Elyria. The number of protesters at today's rally was estimated at about 100 by police.

Again the only incidents that occurred were peaceful. Just as yesterday Mrs. Joan Taylor, leader of the group, and four others tried to make an appointment with Edward Burton, school superintendent. They said that they intended to present to the board of education a petition bearing more than 2,000 signatures asking the local schools to reconsider their proposed redistricting plan. They were told that Burton was unable to see them today, but might be able to meet with them sometime later in the week.

The protesters turned down an offer to have the petition accepted by Burton's secretary on the grounds that "we want to make sure that Burton himself can see the wide support there is for this protest." They again declared their intention to return each day until a meeting with the superintendent is arranged.

Meanwhile, the board of education issued this statement: "The redistricting plan for Elyria schools, submitted to the board of education and passed unanimously by the duly-elected members of the board last week, will prevail. The plan will work to the benefit of all Elyria residents, relieving overcrowding at some of the city's junior high schools and resulting in less expensive building programs in the future."



Representatives of Parents Concerned About Schools finally met with School Supt. Edward Burton this afternoon. The meeting came after the third successive day of picketing by the group led by Mrs. Joan Taylor.

The exact substance of the meeting was not disclosed, but it appeared from statements issued later that little progress had been made. Speaking for her group Mrs. Taylor said, "Mr. Burton was totally indifferent to the feelings of the better than 2,000 taxpayers who signed our petition calling for reconsideration of the redistricting proposal. We feel that the welfare of our children is more important than making life easier for the school administration, which has submitted itself to the whims of the higher-ups down in Columbus. We want to have something to say about the way our schools are run." She would not say whether the picketing would continue.

Burton called reporters into his office after the meeting and told them, "I really fail to see the logic behind this protest. We have a redistricting plan here which satisfies the state requirements, but which was developed by our own people. It promises to result in a better educational system for all our pupils and at the same time should save us money in the long run."

He promised to listen to all "reasonable" objections to the plan.

Pickets representing Parents Concerned About Schools surrounded the school administration offices in Elyria, Ohio, this morning in protest of the board's proposed realignment of school boundaries which would maintain racial separation in the school system.

Parents, mostly mothers, formed picket lines beginning at 8 a.m., and remained until shortly before the end of the school day. Police were present from the beginning, but the protest was peaceful and no incidents occurred.

About 10 a.m. a group of five protesters, led by black civil rights figure, Mrs. Joan Taylor, attempted to enter the building to make an appointment with School Supt. Edward Burton. They were told that Burton was out of town for the day and would not be available. The group of five conferred briefly, then announced plans to return again each day until a meeting with the superintendent was granted.

In a news release, the Schools called the recent proposal from the board for redistricting "an attempt to take control of schools away from parents."

The proposal, it was charged, was "the result of an underhanded deal with state school authorities in Columbus, consummated without regard to the feelings of the taxpayers of Elyria." The group called for a new proposal which would include busing of pupils, if necessary, to ensure a more equitable racial make-up in the schools.

School administration officials denied these charges, saying that the redistricting plan is the result of careful study by both local school authorities and state officials. A spokesman for the board termed the protest "unnecessary" and added that the board could not cater to the needs of every special interest group.

For the second day in a row Parents Concerned About Schools formed picket lines at the school administration offices in Elyria. The number of protesters, most of them Negroes, at today's rally was estimated at about 100 by police.

Again the only incidents that occurred were peaceful. Just as yesterday, Mrs. Joan Taylor, leader of the group, and four others tried to make an appointment with Edward Burton, school superintendent. They said they intended to present the board of education with a petition bearing more than 2,000 signatures asking the local schools to reconsider their proposed redistricting plan which would, in their words, "maintain segregation and racism in Elyria." They were told that Burton was unable to see them today, but might be able to meet with them sometime later in the week.

The protesters turned down an offer to have the petition accepted by Burton's secretary on the grounds that "we want to make sure that Burton himself can see the wide support there is for this protest." They again declared their intention to return again each day until a meeting with the superintendent is arranged.

Meanwhile, the board issued this statement: "The redistricting plan for Elyria schools, submitted to the board of education, and passed unanimously by the duly-elected members of the board last week, will prevail. The plan will work to the benefit of all Elyria residents, relieving overcrowding at some of the city's junior high schools and resulting in less expensive building programs in the future. The board intends to have no dealings with troublemakers and outside agitators."

Representative of the Parents Concerned About Schools finally met with School Supr. Edward Burton this afternoon. The meeting came after the third successive day of picketing led by Mrs. Joan Taylor a local black civil rights leader.

The exact substance of the meeting was not disclosed, but it appeared from statements issued later that little progress had been made. Speaking for her group, Mrs. Taylor said, "Mr. Burton was totally indifferent to the feelings of the better than 2,000 taxpayers who signed our petition calling for reconsideration of the redistricting proposal. We feel that the welfare of our children is more important than making life easier for the school administration which has submitted itself to the whims of the higher-ups down in Columbus who are known for their racist attitudes. We want to have something to say about the way our schools are run." She would not say whether the picketing would continue.

Burton called reporters into his office after the meeting and told them, "I really fail to see the logic behind this protest. They would protest about something no matter what we did. We have a redistricting plan here which satisfies the state requirements, but which was developed by our own people. It promises to result in a better educational system for all our pupils and at the same time should save us money in the long run."

He promised to listen to all "reasonable" objections to the plan.

Pickets representing Parents Concerned About Schools surrounded the school administration offices in Elyria, Ohio, this morning in protest of the board of education's proposed realignment of school boundaries which would bring integration to the school system.

Parents, mostly mothers, formed picket lines beginning at 8 a.m. and remained until shortly before the end of the school day. Police were present from the beginning. But the protest was peaceful and no incidents occurred.

About 10 a.m. a group of five protesters, led by white anti-integration figure Mrs. Joan Taylor, attempted to enter the building to make an appointment with School Supt. Edward Burton. They were told that Burton was out of town for the day and would not be available. The group of five conferred briefly, then announced plans to return again each day until a meeting with the superintendent was granted.

In a news release, the Parents Concerned About Schools called the recent proposal from the board for redistricting "an attempt to take control of schools away from parents."

The proposal, it was charged, was "the result of an underhanded deal with state school authorities in Columbus, consummated without regard to the feelings of the taxpayers of Elyria." The group called for a new proposal which would eliminate busing pupils for the sole purpose of integrating schools.

School administration officials denied these charges, saying that the redistricting proposal is the result of careful study by both local school authorities and state officials.

A spokesman for the board termed the protest "unnecessary" and added that the board felt an obligation to consider the needs of the city's minorities.

For the second day in a row Parents Concerned About Schools formed picket lines at the school administration offices in Elyria. The number of protesters, all of them white, at today's rally was estimated at about 100 by police.

Again the only incidents that occurred were peaceful. Just as yesterday Mrs. Joan Taylor, leader of the group, and four others tried to make an appointment with Edward Burton, school superintendent. They said they intended to present the school board with a petition bearing more than 2,000 signatures asking the local schools to reconsider their proposed redistricting plan which would, in their words, "destroy the concept of neighborhood schools in Elyria." They were told that Burton was unable to see them today, but might be able to meet with them sometime later in the week.

The protesters turned down an offer to have the petition accepted by Burton's secretary on the grounds that "we want to make sure that Burton himself can see the wide support there is for this protest." They again declared their intention to return each day until a meeting with the superintendent is arranged.

Meanwhile the board of education issued this statement: "The redistricting plan for Elyria schools, submitted to the board of education and passed unanimously by the duly-elected members of the board last week, will the benefit of all Elyria residents, relieving overcrowding at some of the city's junior high schools and resulting in less expensive building programs in the future. The board intends to pursue its policy of total integration."

Representatives of the Parents Concerned About Schools finally met with School Supt. Edward Burton this afternoon. The meeting came after the third successive day of picketing by the group led by Mrs. Joan Taylor, long-time local foe of integration.

The exact substance of the meeting was not disclosed, but it appeared from statements issued later that little progress had been made. Speaking for her group, Mrs. Taylor said, "Mr. Burton was totally indifferent to the feelings of the better than 2,000 taxpayers who signed our petition calling for reconsideration of the redistricting proposal. We feel that the welfare of our children is more important than making life easier for the school administration which was submitted itself to the whim of the higher-ups down in Columbus who are known for their ultra-liberal attitudes. We want to have something to say about the way our schools are run."

She would not say whether the picketing would continue.

Burton called reporters into his office after the meeting and told them, "I really fail to see the logic behind this protest. These people have no idea of changing times. We have a redistricting plan here which satisfies state requirements, but which was developed by our own people. It promises to result in a better educational system for all our pupils, and at the same time should save us money in the long run."

He promised to listen to all "reasonable" objections to the plan.

Appendix 4

Attitude Scales

Now that you have read the newspaper clipping, please answer the following questions. We want your first reaction. Do not leave any of the scales blank. Please make your check marks in the middle of the appropriate space.

Check the box which best describes your feelings toward the school administration of Elyria:

:	:	:	:	:	:	:	:
extremely	somewhat	slightly	neutral	slightly	somewhat	extremely	
favorable	favorable	favorable		unfavorable	unfavorable	unfavorable	

Check the box which best describes your feelings toward Supt. Edward Burton.

:	:	:	:	:	:	:	:
extremely	somewhat	slightly	neutral	slightly	somewhat	extremely	
favorable	favorable	favorable		unfavorable	unfavorable	unfavorable	

Check the box that best describes your feelings toward the Parents Concerned About Schools:

:	:	:	:	:	:	:	:
extremely	somewhat	slightly	neutral	slightly	somewhat	extremely	
favorable	favorable	favorable		unfavorable	unfavorable	unfavorable	

Check the box which best describes your feelings toward Mrs. Joan Taylor, leader of the protest.

:	:	:	:	:	:	:	:
extremely	somewhat	slightly	neutral	slightly	somewhat	extremely	
favorable	favorable	favorable		unfavorable	unfavorable	unfavorable	

Check the box which best describes your feelings toward the total situation described in the article:

:	:	:	:	:	:	:	:
extremely	somewhat	slightly	neutral	slightly	somewhat	extremely	
favorable	favorable	favorable		favorable	favorable	favorable	
to school	to school			to parents	to parents	to parents	
administration	administration			concerned	concerned	concerned	

Check the box which best describes how you think the events you read about will eventually turn out:

:	:	:	:	:	:
complete victory	compromise in	total	compromise in	complete victory	
for school	favor of school	compromise	favor of	for parents	
administration	administration		parents	concerned	
			concerned		



APPROVAL SHEET

The dissertation submitted by Richard P. McGlynn, has been read and approved by members of the Department of Psychology.

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

January 19, 1970

Date

Patrick R. Laughlin

Signature of Advisor